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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

April 6, 1998

Office of the Secretary  
Federal Communications Commission  
1919 M St. NW  
Room 222  
Washington, DC 20554

Re: CC Docket No. 98-11; CC Docket No. 98-26; CC Docket No. 98-32

Enclosed please find an original and 13 copies of the comments of Compaq Computer Corporation in the above referenced-proceeding. Please file stamp the extra copy and return in the enclosed, self-addressed envelope.

Sincerely,



Stacey Stern Albert

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**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.**

IN THE MATTER OF )

PETITION OF BELL ATLANTIC )  
CORPORATION FOR RELIEF FROM )  
BARRIERS TO DEPLOYMENT OF )  
ADVANCED TELECOMMUNICATIONS )  
SERVICES )

CC DOCKET No. 98-11

DA 98-184

PETITION OF U S WEST COMMUNICATIONS, )  
INC. FOR RELIEF FROM )  
BARRIERS TO DEPLOYMENT OF )  
ADVANCED TELECOMMUNICATIONS )  
SERVICES )

CC DOCKET No. 98-26

DA 98-469

PETITION OF AMERITECH CORPORATION )  
TO REMOVE BARRIERS TO INVESTMENT )  
IN ADVANCED TELECOMMUNICATIONS )  
CAPABILITY )

CC DOCKET No. 98-32

DA 98-470

**COMMENTS OF COMPAQ COMPUTER CORPORATION**

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APRIL 6, 1998

## **SUMMARY**

Section 706 of the Telecommunications Act of 1996 is intended to ensure access to advanced telecommunications services to all Americans. The Commission is required to take deregulatory actions to remove regulatory impediments to the provision of advanced services. Bell Atlantic, Ameritech and US West have filed petitions with the Commission seeking relief from certain regulatory requirements in the provisioning of advanced services, particularly DSL services.

The rapid deployment of DSL services will leverage the existing investment in copper infrastructure and provide a cost effective, high bandwidth data service to the American public. Compaq believes that the development of the U-ADSL standard, the availability of affordable ADSL equipment, and the growth in demand for high speed Internet access presents an opportunity for mass-market deployment of ADSL services. The only potential impediment to deployment may be regulations designed for the protection of voice telephone ratepayers that may not be appropriate for advanced services.

Specifically, Compaq believes that the Commission should use its forbearance authority under Sections 10 and 706 of the Telecommunications Act to remove DSL services from tariff requirements, price cap regulation, unbundled network element requirements, and the separations process. This regulatory relief will remove unnecessary impediments to service deployment without harming competition. The Commission, however, should maintain appropriate safeguards to protect competition, including ensuring the availability of DSL-compatible loops to competitive local

exchange carriers and providing access to DSL services to independent information services providers that are comparable to those provided to carrier affiliated information services.

Lastly, the Commission should make sure that the goal of Section 706, the deployment of advanced services, is actually met by those who seek regulatory relief under Section 706. The Commission should establish a minimum deployment requirement — perhaps fifty-percent of residential access lines within two years — for carriers that avail themselves of regulatory relief for advanced services.

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CAPABILITY	)	DA 98-470
	)	

**COMMENTS OF COMPAQ COMPUTER CORPORATION**

Compaq Computer Corporation ("Compaq") hereby submits these comments in response to the Commission's Public Notice, released on January 30, 1998, of the above-referenced petitions filed by Bell Atlantic on January 26, 1998, U S WEST on February 25, 1998, and Ameritech on March 5, 1998 ("Petitions"). Compaq, with 1997 revenues of \$24.6 billion, is the world's leading manufacturer of personal computers ("PCs") and, with the proposed acquisition of Digital Equipment Corporation, will be the second largest computer company in the world. Most of Compaq's

consumer PCs are equipped with facsimile/data modems, telephone and answering machine capability, speakerphones, high fidelity sound systems, and high-speed CD-ROM/DVD-ROM drives. These products can be used with a wide range of audio, video, and data distribution networks, and will complement precisely the deployment of high bit-rate, broadband telecommunications capabilities to the home and office.

Compaq also is a leader in the market for computer servers and internetworking equipment for businesses and other institutions. Compaq is a leading supplier of Internet servers with many of the most popular Internet sites operating on Compaq equipment. The company anticipates that its products will play a key role in providing users with ready access to the vast resources of the Internet and other information services. For these reasons, Compaq has a keen interest in the Commission's disposition of the petitions of Bell Atlantic, U S WEST and Ameritech ("Petitioners") and the outcome of any subsequent proceedings.

## **I. INTRODUCTION**

Petitioners raise a number of important issues that the Commission must begin to address as communications technology advances into the next century. Inevitably, other such requests for regulatory forbearance consistent with the purposes of Section 706 of the Telecommunications Act of 1996<sup>1</sup> will follow, as Ameritech and U S WEST have already submitted petitions after the initial filing by Bell Atlantic. The Commission's task will be to balance the requests of regulated incumbent carriers, such

as Petitioners, that require proper incentives to deploy new capabilities in their networks, with the concerns of competing entities fearful of premature easing of competitive safeguards that constrain these incumbents' market power. In balancing these issues, the Commission should adopt policies that are most likely to ensure the deployment of higher bandwidth services to large numbers of American consumers. Section 706, in fact, encapsulates in one short provision the dynamic tension that underlies the "pro-competitive, de-regulatory framework" of the 1996 legislation.

Many of the Commission's current regulatory structures evolved during the period of the monolithic Bell System and the aftermath of the AT&T divestiture. These regulations were designed primarily to protect ratepayers of "plain old telephone service" ("POTS") from the dangers of market power while encouraging competition in such areas as long-distance service, enhanced services, and the provision of customer-premises equipment. While the need for such safeguards may remain in many contexts, there is also a need for a forward-looking regulatory approach in areas where new technologies are being deployed and new competitive pressures can be brought to bear. "Convergence" has been used to describe the rapid advances in digital technology, data compression techniques, and PC-based communications, which are breaking down the boundaries that have long separated telephony, cable and wireless services. That term also means a marketplace of divergent competitive players and technological approaches. To keep pace, the Commission must broaden its view of the relationship among these various telecommunications markets; it must adapt its

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<sup>1</sup> Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).



oversight to promote deployment of advanced telecommunications capabilities by removing regulatory obstacles that, although well intended, are out of place. This is the purpose of Section 706; Compaq strongly supports that purpose.

With respect to Petitioners' requests for relief, Compaq supports action by the Commission to promote the deployment of Digital Subscriber Line ("DSL") technology. As described below, DSL-based loop services will provide the potential for significant increases in information flow to residences and small businesses at moderate prices through efficient utilization of existing loop plant. The Commission should utilize the forbearance authority granted to it under Sections 10 and 706 of the Communications Act ("the Act") to create an environment where local exchange carriers ("LECs") such as Petitioners will have the incentives to deploy DSL services rapidly. As explained below, Compaq believes that appropriate use of forbearance can create such incentives with minimal risks for the LECs' ratepayers or for their competitors.

## **II. RAPID DEPLOYMENT OF DSL SERVICES WILL CREATE SIGNIFICANT CONSUMER BENEFITS AS CONTEMPLATED BY SECTION 706 OF THE 1996 TELECOMMUNICATIONS ACT.**

Digital Subscriber Line technology clearly is the type of advanced telecommunications capability contemplated in Section 706 of the Telecommunications Act. That provision directs the Commission to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."<sup>2</sup> It further directs the Commission to use forbearance or other regulatory

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<sup>2</sup> *Telecommunications Act of 1996*, § 706(a).

methods “that remove barriers to infrastructure investment.”<sup>3</sup> Carriers such as Petitioners are poised to deploy DSL on a widespread basis, but, as the Petitions point out, these carriers face certain negative incentives to such deployment in the form of regulatory requirements.

With the knowledge that the telecommunications industry is entering an age of rapid technological development, Congress wisely did not attempt to specify with particularity the types of services that should come within the broad mandate of Section 706. Thus, “Advanced Telecommunications Capability” is defined broadly “without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”<sup>4</sup>

The legislative history of the Act evinces a strong intent to use such technologies, for instance, to connect classrooms around the country to valuable educational resources using the Internet.<sup>5</sup> This intent has been echoed repeatedly by the Clinton Administration.<sup>6</sup> Digital Subscriber Line technology is precisely the kind of technology that can make this, as well as other legislative goals, a reality. Using the copper loop-based telephone networks that are already in place, DSL technologies will

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<sup>3</sup> *Id.*

<sup>4</sup> *Id.*, § 706(c).

<sup>5</sup> *See, e.g.*, 142 Cong. Rec, S. 687 (Remarks of Sen. Pressler).

<sup>6</sup> *See, e.g.*, Vice President Al Gore, *Bringing Information to the World: The Global Information Infrastructure*, 1996 Harv. J. L. & Tech. 1, 2.

allow users to access the Internet at vastly higher bit-rates than they currently do.<sup>7</sup> DSL technologies can thus assist in making the Internet a more efficient resource for a wide range of users. For students using the Internet from schools and libraries, this means that on-line time will no longer be wasted waiting for image and text to appear on the computer.

Home and business users stand to benefit from the increased efficiency as well. According to a recent study by the Yankee Group, close to two-thirds of households that currently subscribe to some form of Internet service have expressed interest in high-speed Internet access.<sup>8</sup> More importantly, the success of any one of a number of technologies that provide high-speed Internet access will likely generate broad-based consumer interest and increased competition in the market.<sup>9</sup> Allowing Petitioners to deploy DSL capabilities will prove beneficial to all users, as competition between DSL and other competing services creates incentives for infrastructure development and ultimately drives down the prices consumers must pay for high bit-rate Internet access.

DSL technology is only one of a number of competitive technologies that companies may rely upon to deploy high bit-rate Internet service. Comparable services

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<sup>7</sup> See Dr. Janusz Zalewski, Report, Asynchronous Digital Subscriber Line (Univ. Central Florida, Dec. 1997).

<sup>8</sup> These statistics were reported in Mass Media News, Communications Daily at 8 (Dec., 3, 1997) (citing Yankee Group Report).

<sup>9</sup> Cable Modems, ISDN News Focus Supplement, Fiber Optics News (Oct. 6, 1997) (available in LEXIS, FEDCOM library, COMPUB file) (quoting Yankee Group consultant Bruce Liechtman).

are already being offered by major companies using cable modems, and in some cases, satellite feeds.<sup>10</sup> Ten percent of the country has already been wired for Internet cable services,<sup>11</sup> and it is anticipated that the availability of Internet services over cable networks will increase dramatically in the near future. The cable industry currently boasts approximately 100,000 Internet subscribers.<sup>12</sup> Consumer demand has prompted cable companies to offer trial services in several major markets, including California's Silicon Valley, Detroit, Michigan, Tampa, Florida, and Fairfax, Virginia.<sup>13</sup> Wireless carriers are poised to deploy high-speed digital modem services in major markets as well. Consumers have responded positively to the availability of these services. By allowing Petitioners to offer DSL services to consumers free of undue regulatory constraints, the Commission will put pressure on the cable industry to develop their networks further and improve service offerings so that competitive Internet services will be offered on a broader scale throughout the country.

Investment outlays are not likely to be a significant barrier to new DSL services that have the potential to provide high bit-rate Internet access to millions of users across the United States. Using ADSL, for example, a LEC need only make a minor investment to add equipment in its central office and remote nodes to begin

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<sup>10</sup> Satellite 'Net Access Offers Interim Broadband Solution, Internet Week (Nov. 25, 1996) (available in LEXIS, FEDCOM library, COMPUB file).

<sup>11</sup> Michael Himowitz, *Hype vs. Reality on High-Speed Access to Internet*, Baltimore Sun, at 2E (Jan. 25, 1998).

<sup>12</sup> *Id.*

<sup>13</sup> These include Adelphia Cable Communications, Bay Networks, @Home Network, Inc., and Continental Cablevision.

providing ADSL service. The recent formulation of the Universal ADSL standard will assist the process of low-cost ADSL deployment. U-ADSL, supported by Compaq, Intel, Microsoft, GTE and all five Bell companies, will allow for a plug-and-play splitterless deployment that will not require new telephone company equipment at the remote premises. Thus, LECs offering U-ADSL will not have to send technician crews to the customer premises every time a customer orders the service, dramatically reducing start-up costs. The U-ADSL standard will also allow for the production of less expensive ADSL "modems" that can be incorporated directly into PCs. The economics for widespread DSL deployment are compelling: inexpensive network and customer premises equipment, use of existing copper loop plant, and dramatically higher bit rate services.

The standards issues and physical infrastructure for DSL are already in place. If the Commission acts quickly on the regulatory issues, LECs will likely begin to provide DSL services in mass market proportions in the very near future. Allowing the LECs to implement DSL technologies without regulatory burdens will dramatically decrease the amount of time many consumers must wait for affordable, high bit-rate Internet access.

**III. THE COMMISSION SHOULD MAKE APPROPRIATE USE OF ITS FORBEARANCE AUTHORITY TO PROMOTE THE DEPLOYMENT OF DSL SERVICES.**

Petitioners have requested, *inter alia*, that the Commission permit them “to develop [their] newer high-speed broadband services that operate at speeds greater than ISDN, including all xDSL services, free from pricing, unbundling, and separations restrictions designed for voice calls.”<sup>14</sup> Compaq supports this request to the extent that it addresses DSL services provided by means of local loops.

Specifically, Compaq believes that the Commission should forbear from imposing on regulated carriers’ offerings of DSL-based loop services any form of tariff requirements under Section 203 of the Act, including price cap regulation, as well as any facilities authorization requirements under Section 214. In addition, the Commission should forbear from creating any new unbundled network element (“UNE”) for DSL-specific transmission components under its authority under Section 251(c)(3) and (d)(2) of the Act and should explicitly exclude DSL loop services as a required wholesale offering to resellers under Section 251(c)(4). Finally, through its authority under Section 221(c) of the Act, the Commission should remove the equipment dedicated to DSL-based loop services from the jurisdictional separations process by classifying all such equipment as used for interstate communications.<sup>15</sup>

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<sup>14</sup> Bell Atlantic Petition, at 3.

<sup>15</sup> In the overwhelming majority of cases, DSL services will be used for access to interstate data networks, primarily the Internet. Removal of costs dedicated solely to DSL services from the separations process is thus an appropriate use of the Commission’s statutory authority.

**A. Regulatory Forbearance as Applied to DSL Services Meets the Requirements of Sections 10 and 706 of the Communications Act.**

Forbearance from regulating DSL services along the lines Compaq suggests above clearly meets the criteria set forth in Sections 10 and 706 of the Act.<sup>16</sup> First, enforcement of the regulations described above are not necessary to ensure that DSL-based loop services are delivered on just and reasonable terms without unjust or unreasonable discrimination. Unreasonable pricing and rate discrimination should be non-issues for the delivery of DSL. Under price cap regulation, new services are held outside of the price cap calculations for a period of time following their introduction in any event.<sup>17</sup> Forbearance would simply prolong that situation for DSL services indefinitely, while relieving the LECs of the necessity to file tariffs, cost studies, demand estimates, etc. Because DSL services will require broad consumer demand to justify wide-scale deployment of the service at moderate prices, the potential for unreasonable discrimination is minimal. The LECs should have the flexibility to offer promotions, term contracts, and de-averaged pricing as necessary to stimulate demand for DSL. DSL services, more than typical telecommunications services, have significantly different variable costs depending on location and de-averaged prices may be necessary to incent deployment in a variety of different contexts. In other words, forbearance from pricing and facilities authorization regulation will enable market forces to ensure that the pricing of DSL services is fair and reasonable.

Second, the Commission should give ample consideration to the fact that

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<sup>16</sup> 47 U.S.C. § 160(a)(1-3), (b).

<sup>17</sup> 47 C.F.R. § 61.49(g)(1).

DSL services should not be considered necessary, “lifeline” services like residential telephone service or POTS. Relief from the regulatory requirements described above that would otherwise be imposed on DSL services will not pose any threat to consumers. In any event, the LECs’ offering of DSL-based loop services would remain subject to the “core” Title II requirements of Sections 201 and 202.

Third, as described above in Part II of these comments, the public interest benefits of the relief Compaq has suggested would be considerable. Moreover, in weighing the effect that forbearance from Section 251 regulations for DSL services will have on competition among providers of telecommunications services, the Commission should bear in mind the limited scope of such relief. Compaq believes that only new network components installed to provide DSL services, and new services based on these components, should be exempted from the Section 251 UNE and resale requirements. The Commission should expressly require the LECs to make available DSL-compatible loops to competing carriers.<sup>18</sup> In this manner, competitors will have incentives to devise their own DSL solutions to combine with LEC facilities and services acquired on a UNE or resale basis, resulting in increased competition. By contrast, requirements that DSL components be made available as UNEs, or that DSL services be made available on a wholesale basis to resellers, will create negative incentives for the LECs. Rather than devise aggressive, demand-stimulating pricing and deployment strategies aimed solely at consumers, these companies will be

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<sup>18</sup> The availability of DSL-compatible loops is the one critical factor that will ensure that competitive LECs are able to compete in providing DSL services. A competitive LEC then collocate its own equipment in the central office to provide



prompted to “protect their flanks” by taking into account the price and demand factors posed by their own DSL capabilities purchased from them by their competitors. The resulting down-side for consumer interests is precisely the problem that the forbearance provisions of the 1996 Act were meant to address.

In addition to the number of start-up market entrants that will use DSL technology to compete with the LECs, there are or will soon be a number of other competitive alternatives to the LECs’ DSL offerings. Cable modems, wireless data services, multicast digital television, and satellite data offerings will provide high bit-rate transmission services to homes and offices similar to those to be provided using DSL technology. Forbearance from common carrier pricing and interconnection regulation will enhance the LECs’ capabilities to respond to these competitive alternatives, strengthening competition in these converging markets overall.

**B. The Commission Should Apply Appropriate Safeguards to Protect Information Service Providers and Ensure Deployment of DSL Services.**

Compaq does not contend that the Commission should cede all of its regulatory oversight to market forces. In addition to the required availability of DSL-compatible loops and other network infrastructure to competitive local exchange carriers that could facilitate competing DSL solutions, there remains a need for other safeguards to ensure that the Commission’s forbearance action does not have anticompetitive consequences. In particular, the Commission should give attention to the application of the *Computer III* safeguards to the provision of “enhanced” or “information” services using the new “basic” or “telecommunications” services based on

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DSL services.

DSL technology. It is clear that DSL services do not involve changes in the form, content, code or protocol of subscribers' transmitted information, and thus do not fall within the definitions of either "information service" in the Act or "enhanced service" in the Commission's rules.<sup>19</sup> The provision of enhanced services offered by Petitioners and other Bell Operating Companies ("BOCs") using DSL services should remain subject to the "open network architecture" requirements. Information service providers must have fair and reasonable access to DSL services comparable to that provided to the BOCs' own information services operations, including any traffic aggregation or concentration services.<sup>20</sup>

**C. The Commission Should Ensure, After Forbearance is Granted, That Carriers Obtaining Forbearance Actually Deploy DSL Services to a Significant Portion of Consumers.**

While Compaq does not believe that DSL services are lifeline necessities that require universal availability, there are concerns that some LECs might seek forbearance in the DSL context for the precedential value such a decision may confer, without serious follow-through in terms of deployment. It is also possible that some LECs might use forbearance to offer services only in areas where they face competition, rather than to the public at large.

Widespread deployment of DSL services by LECs is also necessary to

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<sup>19</sup> See 47 U.S.C. § 153(20); 47 C.F.R. § 64.207(a).

<sup>20</sup> The Commission is currently re-examining its *Computer III* requirements in another proceeding. See *Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services*, Further Notice of Proposed Rulemaking, CC Docket Nos. 95-20, 98-10, FCC 98-8 (rel. Jan. 30, 1998).

encourage other, non-regulated market participants to make necessary investment in DSL technology. For example, suppliers of customer premises equipment, such as Compaq, must invest in the design and production of DSL capable PCs. In a fully competitive market, equipment producers can depend on market forces to deploy the needed services. Given that the local exchange market is not yet fully competitive, some minimal level of service deployment will be necessary to incent investment by non-regulated market participants.

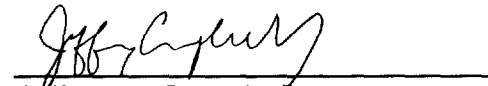
Compaq therefore suggests that LECs be required to submit requests for regulatory forbearance for their DSL services on a company-by-company, "me-too" basis. Accompanying such requests should be a certification that the company will meet certain "build-out" requirements, such that an appropriate percentage of access lines will be served by DSL-enabled wire centers within an appropriate time span. Given the relatively low investments required for DSL deployment, Compaq suggests a minimum requirement of DSL services availability in wire centers that serve fifty-percent of residential access lines with two years after the request is granted. Carriers would be free to request extensions upon a showing of changed circumstances. In this manner, the Commission could ensure that the pro-consumer purposes that underlie its exercise of forbearance authority will be achieved.

#### **IV. CONCLUSION**

For the reasons discussed above, the Commission should create a regulatory regime that grants relief from barriers to deployment of advanced telecommunications services by LECs upon receipt of a commitment by the LEC to deploy widely the advanced telecommunications services envisioned in Section 706 of the Telecommunications Act. Such relief, tempered with appropriate safeguards, will accelerate the availability of high bandwidth services to American consumers.

Respectfully submitted,

COMPAQ COMPUTER CORPORATION

A handwritten signature in dark ink, appearing to read "Jeffrey A. Campbell", is written over a horizontal line.

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April 6, 1998